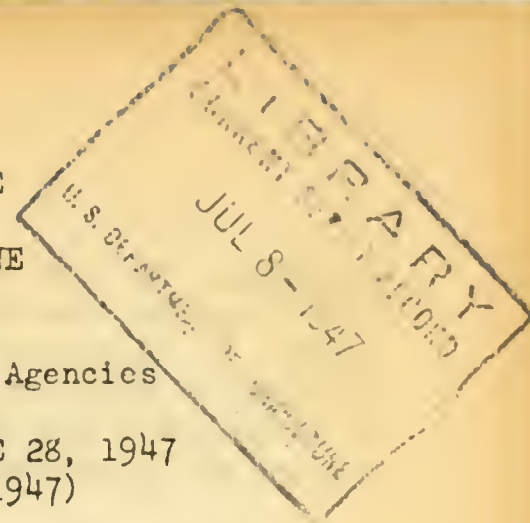


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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
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In Cooperation with State, Federal and other Agencies

COTTON INSECT CONDITIONS FOR WEEK ENDING JUNE 28, 1947
(Fifth Cotton Insect Survey Report for 1947)

The boll weevil situation continues to be critical in North Carolina, South Carolina, Georgia, Alabama, and Mississippi, and in some areas in Louisiana, Texas, and Oklahoma. Rains and mild temperatures have been favorable for weevil increases in most of these States.

If hot, dry weather does not prevail or the heavily infested cotton fields are not properly dusted with insecticides during July, the losses caused by the boll weevil will be serious.

The second finding of cotton leafworms this year was in Calhoun County near Port Lavaca, Texas, on June 30.

In the lower Rio Grande Valley of Texas where cotton stalks were cut by August 31 last year, the prospects for the cotton crop continue to look good. Dry weather is hastening the maturity of much of the cotton but the crop is later than in 1946. The first bale for 1947 was ginned in Cameron County on June 23, as compared to June 12 last year--another bit of evidence that the cotton crop is nearly two weeks later than it was a year ago.

INSECTICIDES

SOUTH CAROLINA: F. F. Bondy and C. F. Rainwater report from the Pee Dee Experiment Station on June 27: "Local insecticide dealers have completely exhausted supplies of insecticides for use on cotton but additional limited supplies are expected next week. However, it is not expected that sufficient supplies will be available to meet the demand. There have been roughly 75 tons of the 5% DDT-3% gamma BHC mixture sold in this area and about 12 tons of 20% Toxaphene. Several dealers had calcium arsenate totaling approximately 15 tons in this area, which has all been sold."

NORTH CAROLINA: James T. Conner, Jr., Extension Entomologist, reported on June 28: "Quite a few farmers are dusting with benzene hexachloride and Toxaphene. It is believed that more farmers are either using or planning to use calcium arsenate than last year. No insecticide or equipment shortages have been reported."

ALABAMA: W. A. Ruffin, Extension Entomologist, reported "Supply of calcium arsenate very low."

LOUISIANA AND ARKANSAS: R. C. Gaines of the Tallulah, La., laboratory reported June 27: "The supply of calcium arsenate is limited in Louisiana and Arkansas. Supplies of mixtures of calcium arsenate and nicotine are very limited. Supplies of DDT, DDT-benzene hexachloride mixture, benzene hexachloride, Toxaphene and DDT-chlordane mixture have been reported. In some cases growers have purchased some of these newer materials before they have obtained information in regard to their proper use."

OKLAHOMA: On June 28, C. F. Stiles, Extension Entomologist, advised: "Do not waste calcium arsenate for the supply is critical in some sections of Oklahoma."

TEXAS: O. T. Robertson reported that airplane dusting of cotton began in the vicinity of Presidio, Texas; on June 26. The growers were using a mixture of 10 percent DDT and sulfur. The fields were being dusted even though the infestations of injurious insects were very low.

BOLL WEEVIL

NORTH CAROLINA: Weather conditions were favorable for weevils and crop growth. Cotton is squaring generally over the State and blooms have been noted in a few southern counties. The average weevil infestation in 104 fields in 17 counties was 22%. In 15 fields less than 10% of the squares were punctured; in 56 fields from 10 to 25%; in 23 fields from 25 to 50%; and in 10 fields more than 50% of the squares were punctured. The highest infestations were found in Sampson, Green, Wilson, Scotland, Hoke, and Robeson Counties.

SOUTH CAROLINA: Weather conditions were favorable for weevil development and crop growth. Showers occurred throughout the State and temperatures were below normal. Weevils continued to emerge from hibernation. In the 1/5-acre trap plot of early cotton at Florence, 52 weevils were collected as compared to 119 the previous week and 234 the week before that. These figures indicate that the peak of weevil emergence from hibernation has passed. The collection of weevils in the trap plot through June 27, as compared to other years, follows:

<u>Year</u>	<u>Weevils Collected</u>
1947	1046
1946	365
1945	562
1944	150
1943	518
1942	545
1941	1115
1940	55
1939	741
1938	380

The boll weevil infestation in Florence County, as indicated by average percent of punctured squares in the fields examined, is now higher than at this date in any year since 1941. The average percent of punctured squares in the fields of Florence County at approximately this date in June during 8 years is as follows:

1940	- 0.9	percent of squares punctured
1941	-31.0	" " " "
1942	- 7.1	" " " "
1943	- 7.9	" " " "
1944	- 4.4	" " " "
1945	- 4.2	" " " "
1946	-15.0	" " " "
1947	-23.1	" " " "

In the examination of 28 untreated fields in Florence County the average boll weevil infestation was 22.7%, and in 25 fields that had been either mopped or dusted the average infestation was 6.25% punctured squares.

Boll weevils were found in all of the 152 fields examined in 19 southern and Coastal Plains counties with an average infestation of 25.2%. This compares with an average infestation for the State during the same period of 16.5% in 1946; of 18.8% in 1945; and of 4.25% in 1944. The boll weevil infestation is general throughout the State. In only 8 fields were less than 10% of the squares punctured. In 70 fields the infestations ranged between 10 and 25%; in 67 fields between 25 and 50%; and in 7 fields in Marlboro, Chesterfield, Berkeley, Clarendon, and Richland Counties more than 50% of the squares were punctured.

Farmers throughout the State are much concerned about the weevil situation and plans are being made by many growers to dust their cotton. Supplies of insecticides are critically low in some areas.

A news letter issued by the Agricultural Extension Service at Clemson College on June 30 under the heading "Heavy Weevil Damage Continues in State" is as follows: "South Carolina cotton growers continue to suffer heavy damage from the boll weevil, according to the weekly weevil infestation report of C. R. Jordan, Jr., extension boll weevil specialist. This week's survey covers examinations made by county agents in 163 fields in 35 counties and shows an average of 810 weevils per acre and 23 percent squares punctured. This compares with last week's average of 714 weevils and 28 percent punctured squares. This small decrease in the average number of squares punctured is probably due to the fact that cotton has been fruiting heavily this week. Mr. Jordan reports that a large amount of dusting has been done throughout the state using calcium arsenate and the benzene hexachloride-DDT mixture. Some Toxaphene has also been used. He says good results have been obtained in most cases where these materials have been used."

GEORGIA: The boll weevil situation in Georgia is serious. Weevils were found in all of the 87 fields examined in 37 counties. Cotton squares were examined in 58 fields in 25 counties. The highest infestation reported was the one field examined in Crawford County where 38 percent of the squares had been punctured by the boll weevil. In the only field examined in Richmond County 34 percent of the squares had been punctured. Fields in which the boll weevil infestation reached between 10 and 30 percent punctured squares were reported in Bleckley, Bulloch, Emanuel, Jenkins, Jones, Pulaski, Screven, Telfair, Treutlen, and Wheeler Counties. Examinations were made in 29 fields in 16 counties where the cotton squares were not large enough for making boll weevil infestation records. Examinations were made in small areas in each field and the number of weevils per acre estimated. It was estimated that in the two fields examined in Upson County boll weevils occurred at the rate of over 2800 per acre in one field and over 1500 per acre in the other. In Meriwether County weevils were found at the rate of 400 per acre in one field and at the rate of more than 2200 per acre in another field. Weevils were found in all of the other fields examined at various rates, ranging from 100 to 900 per acre in Butts, Carroll, Clayton, Coweta, Douglas, Fayette, Harris, Heard, Henry, Lamar, Pike, Spalding, Talbot, and Troup Counties. Unless the weevils are checked by hot, dry weather or by dusting with insecticides, there is serious danger that the losses in Georgia may exceed those of 1946 when the Bureau of Agricultural Economics estimated that the boll weevil caused a reduction from full yield of 21 percent of the cotton crop.

ALABAMA: W. A. Ruffin, Extension Entomologist, Auburn, wired June 30: "Weather conditions ideal for weevil development during past 10 days. In fields examined in central Alabama last week infestation ran from 25 to 50%. We are advising farmers to wait until early July to start poisoning cotton. Supply of calcium arsenate very low."

MISSISSIPPI: On June 30, Dr. Clay Lyle, Entomologist of the Experiment Station and State Plant Board, stated: "The cotton insect situation became increasingly more critical during the past week when rainy weather accompanied a further rise in the boll weevil population." Boll weevils were found in 183 of the 297 fields examined in 41 counties. In 144 of these fields, an average of 24% of the squares were punctured as compared with 15% on this date last year. In 39 fields of young cotton, not yet squaring, weevils were found at the average rate of 401 per acre as compared to 138 per acre at this time last year. Serious weevil infestations were reported from many counties, including Attala, Choctaw, George, Holmes, Issaquena, Jones, Lauderdale, Marion, Noxubee, Oktibbeha, Panola, Sharkey, Sunflower, Warren, Wayne, Webster, and Winston Counties. Most of the 114 fields in which no boll weevils were found are in Delta counties, but some fields free of weevils were reported from Alcorn, Lee, Monroe, and Prentiss Counties in the northeastern part of the state.

In the Mississippi Delta during the past week weevils were found in only 36% of the fields examined as compared to 51% during the same week last year, but the infested fields had an average of 20% of the squares punctured this year as compared with an average of 15% a year ago.

Bolivar County: The Delta and Pine Land Company of Scott, Miss., reported that boll weevils were found in 15 of the 21 fields examined; the highest infestation was 44% punctured squares.

LOUISIANA: Rains and mild temperatures were favorable for weevil development throughout the state. Cotton fields were examined in four parishes. The weevils were abundant in Madison Parish where they were found on all of the 16 fields examined. The infestations ranged from 3 to 50% with an average of 20% of the squares punctured. In 6 fields less than 10% of the squares were punctured, in 6 fields between 11 and 25% of the squares were punctured, and in 4 fields the infestations ranged from 26 to 50% punctured squares. In Richland Parish no weevils were found in 6 of the fields examined and the infestations did not exceed 10% in the other 3 fields. In Morehouse Parish next to the Arkansas line no weevils were found in 6 of the 13 fields examined. Only one of the other 7 fields had 10% of the squares punctured. No weevils were found in 3 of the 7 fields examined at St. Landry Parish in the southern part of the state and the infestation did not exceed 10% punctured squares in the other 4 fields. The boll weevil infestations in Louisiana appeared to be spotted. In general the infestations are lower than they were a year ago at this time.

ARKANSAS: Because of rains cotton fields were examined in only 4 counties in Arkansas. Boll weevils were found in Chicot, Drew, Lincoln, and Jefferson Counties at rates ranging from 16 to 190 weevils per acre or an average of 94 weevils per acre. Apparently the weevils are less abundant in southeastern Arkansas than they were a year ago.

TEXAS: Boll weevils are still comparatively scarce in most areas of the state, although some counties showed increases. Many fields inspected in southern counties showed increases in percentage of squares punctured, but these increases, especially in the Lower Rio Grande Valley, were due mostly to scarcity of squares. The average infestation in 391 fields in 31 counties was 12%. In 76 fields no punctured squares were found; in 169 fields the infestation was less than 10%; in 98 fields from 10 to 25%; in 33 fields from 25 to 50%; and in 15 fields in Grayson, McLennan, Wharton, San Patricio, Cameron, and Hidalgo Counties more than 50% of the squares were punctured.

In the Lower Rio Grande Valley the boll weevils have caused little damage this year but they are increasing rapidly in a few fields. No weevils were found in 18 of the 65 fields examined in Cameron, Hidalgo, and Willacy Counties. In only 22 of the fields examined were more than 10% of the squares punctured and in only 6 of these fields did the infestations exceed 50% punctured squares.

OKLAHOMA: C. F. Stiles, Extension Entomologist, Stillwater, wrote on June 28: "Practically all fields of old cotton are now heavily infested with adult weevils. Yesterday one field four miles southeast of Chandler in Lincoln County had 16 weevils on 100 linear feet of row. Evidently, the cold weather had little effect on over-wintering weevils. I am certainly surprised to find any weevils this far north." Mr. Stiles reports that practically all fields of old cotton in central and eastern Oklahoma are now heavily infested with adult weevils. Eight of the ten fields examined in Lincoln County were infested. Fields with infestations ranging from 40 to 68% punctured squares were found in Bryan, Choctaw, McCurtain, McIntosh, and Okfuskee Counties. Weevil infested fields were also reported from Garvin, Caddo, Grady, Murray, McClain, Cleveland, Oklahoma, Logan, and Payne Counties.

COTTON LEAFWORM

The second cotton leafworms reported this year were found in Calhoun County near Port Lavaca, Texas, on June 30, by W. N. Kettler. The first leafworms were found in Nueces County eight miles south of Corpus Christi, June 21.

COTTON APHID

NORTH CAROLINA: James T. Conner, Jr., Extension Entomologist, reported on June 28: "Aphids continue to cause damage, especially on late plantings and in the northern part of the state near the Virginia line."

BOLLWORM

LOUISIANA: W. S. McGregor, Extension Entomologist, Baton Rouge, reported the last week of June: "The bollworm, which usually doesn't show up in Louisiana until early August, is already doing severe damage to cotton throughout the state."

MISSISSIPPI: Dr. Clay Lyle stated "Bollworms have been destructive in Marion and Walthall Counties according to county agent reports." A few bollworms have been reported in Delta counties.

TEXAS: A few bollworm eggs and larvae have been found on cotton in Presidio County in the Big Bend area of western Texas and in McLennan and Falls Counties in central Texas, but no damage has been noted. Light bollworm injury has been reported in a few fields in the Lower Rio Grande Valley.

COTTON FLEAHOPPER

TEXAS: Cotton fleahopper infestations continue medium to high in most central and southern Texas areas. Fleahoppers were found in 23 out of 34 fields inspected in 6 north central counties. Dry weather, maturity of the cotton, and toughening of the terminal buds are rapidly reducing the fleahopper populations below the damaging point in many fields in southern counties.

OKLAHOMA: Fleahopper infestations are light over the entire state.

GEORGIA: Reports of injury supposed to have been caused by the cotton fleahopper have been received from Laurens, Montgomery, Putnam, Treutlin and Wheeler Counties.

MISCELLANEOUS INSECTS

Grasshoppers: Grasshoppers continue to cause serious damage along the margins in many cotton fields in central Texas. Control is general throughout the infested areas.

Garden Webworm (*Loxostege similalis* (Guen.)): B. J. Young of the Delta and Pine Land Company, Scott, Miss., reported on June 26: "We are having a very heavy infestation of garden webworm for which we have dusted 150 acres by plane and expect to dust another hundred acres either today or tomorrow. The infestation seems pretty general over the various plantations." Dr. E.W. Dunnam reported that at least 25 complaints regarding the garden webworm were received during the week at the Delta Branch Experiment Station, Stoneville, Miss. Dr. Clay Lyle reports an outbreak of the garden webworm in Bolivar, Issaquena, and possibly other Delta counties.

The garden webworm was reported in 39% of the fields examined for boll weevil in southeastern Arkansas, but in no case were the worms numerous enough to require treatment. These insects were also reported in some of the fields examined in Louisiana.

Thrips: James T. Conner, Jr., Extension Entomologist, reports that thrips are causing light to moderate damage in the Eastern Coastal Plains counties of North Carolina.

Red Spider: James T. Conner, Jr., Extension Entomologist, reports that red spiders have caused heavy damage in a few fields in the northeastern part of North Carolina.

Grape Colaspis: The grape colaspis (*Colaspis flava* (Say)) is causing some damage to cotton in local areas in central Louisiana.

INSECTS ON IRRIGATED COTTON OF THE SOUTHWEST

Injurious hemipterous insect populations increased in many cotton fields in the Salt River and Santa Cruz Valleys and in Pinal County of Arizona. In 56 cotton fields in the Salt River Valley, the average population was 5.5 injurious insects per 100 net strokes. Injurious insects, mostly *Lygus* spp., were found in all fields swept, ranging from 1 to 31 per 100 net strokes. Some airplane dusting was done in the Perryville area during the week and dusting will be started in the Buckeye district the coming week. Cotton fleahopper and *Lygus* spp. populations increased in Pinal County and the Santa Cruz Valley. Some growers have started dusting in the Eloy and Toltec areas of Pinal County and plans are being made to start dusting in the Santa Cruz Valley.

In the El Paso Valley of west Texas, injurious hemipterous insects, mostly *Lygus* spp. and *Adelphocoris* spp., were found in 22 fields at an average rate of 8.8 insects per 100 net strokes. In 2 fields no injurious species were found. There are more injurious cotton insects present in cotton fields now than there were during the last week of July a year ago.

July 3, 1947
